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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,025	10/28/2003	Masao Fukuyama	50427-761	3679

7590 02/21/2006

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Washington, DC 20005-3096

EXAMINER

KUNZER, BRIAN

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,025

Applicant(s)

FUKUYAMA ET AL.

Examiner

Brian Kunzer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 12 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 12 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 11, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (US Patent No. 5,424,560).

Regarding claim 11, Norman et al. discloses in Fig. 6 an organic electroluminescent device that comprises a pair of electrodes (13 and one of 35,40) and a layer structure provided between the paired electrodes and including an emission layer (15 or 20) and at least one organic layer (20 or 25) in contact with the emission layer (15 or 20), wherein the organic layer (20 or 25) comprises a fluorescent material (col. 5, lines 61-66) having an absorption peak wavelength shorter than a peak wavelength of luminescence emitted from the emission layer (15 or 20), as disclosed in col. 4, lines 4-36.

Furthermore, Norman discloses all the limitations of the claimed invention except for specifically teaching that the organic layer includes, "N,N'-bis[4'-(N,N'-diphenylamino)-4-biphenyl]-N,N'-diphenylbenzidine," although similar materials are disclosed by Norman in col. 5, lines 46-66. It would have been obvious to one of ordinary skill in the art, at the time of invention, to also include this material in the organic layer, since it has been held to be within the

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general skill of a person in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 12, Norman et al. discloses that the at least one organic layer (20 or 25) includes two organic sub-layers wherein the fluorescent material is present in one of the sub-layers not in contact with the emission layer, as disclosed in col. 3, lines 46-50, col. 3, lines 59-63, where it is disclosed that the organic layers 20 and 25 may comprise one or more organic layers, and in col. 5, lines 61-65, where it is disclosed that the fluorescent material may be present as a dopant in one of the organic layers or as a sub-layer in the organic layer stack.

Regarding claim 19, Norman et al. discloses the claimed invention including that the fluorescent material is present in one of the sub-layers as disclosed in col. 3, lines 46-50, col. 3, lines 59-63, where it is disclosed that the organic layers 20 and 25 may comprise one or more organic layers, and in col. 5, lines 61-65, where it is disclosed that the fluorescent material may be present as a dopant in one of the organic layers or as a sub-layer in the organic layer stack.

Norman et al. discloses the claimed invention with the exception of disclosing the amount of fluorescent material in the at least one layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the fluorescent material content in the organic layers (20 and 25) in order to obtain a desired luminescence as there is no statement denoting the criticality of the content of fluorescent material, and Norman et al. discloses that it is present in the organic layers or as a separate layer.

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In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.)" (MPEP 2144.04)

Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hu et al. (US Patent No. 5,891,587) discloses derivatives of N,N'-bis[4'-(N,N'-diphenylamino)-4-biphenyl]-N,N'-diphenylbenzidine for use as hole transport/injection layers in an electroluminescence device.

Conclusion

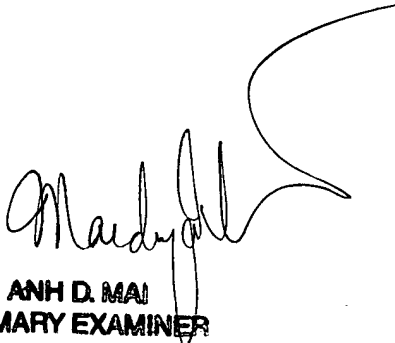
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Kunzer whose telephone number is (571) 272-5054. The examiner can normally be reached on Monday-Friday 8:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BK
2/13/2006



ANH D. MAI
PRIMARY EXAMINER